Multi-scale Context Aggregation by Dilated Convolutions
F. Yu, and V. Koltun (ICLR 2016)

Convolutional network module that is specifically designed for dense prediction (semantic segmentation)

Dilated convolutions to systematically aggregate multi-scale contextual information without losing resolution

"The dilated convolution operator can apply the same filter at different ranges using different dilation factors."

Front end module: VGG16 with deconvolutions (FCN) by removing the last two pooling and striding layers

Front end is already too good: outperforms both FCN-8s and the DeepLab, and even DeepLab+CRF

Identity initialization for the context module

Trained on Microsoft COCO and VOC-2012 and tested on VOC-2012